

the earth, until the *eye* rests on the precise spot. It is therefore their acute faculty of scent, combined with their keenness of vision, which directs the vulture tribe to their prey.

Thus I think I have shewn that the three points in dispute, respecting the vultures of the United States are not applicable either to the Indian or Bengal vultures*, both of which are gregarious, both feed on fresh as well as putrid substances, and both discover their prey by the *combined* faculties of scent and sight.

VIII.—Notes taken at the post-mortem examination of a Musk Deer.
By A. CAMPBELL, Esq., Nipál Residency, June 24, 1834.

[Addressed to J. T. PEARSON, Esq., Curator, Asiatic Society.]

I have the pleasure to send you, for the museum of the Asiatic Society, a very perfect skin (head and feet included) of the Thibetan Musk Deer, as well as of the *Wah* of the Bhotiahs, *Ailurus Fulgens* of the zoologists, and hope they may reach you in the same perfect state they are now in. The musk has been a full grown male, and a large one too. The natives of *Nipál* make a marked distinction between the *Trans-Himálayan* animal, and the *Cacharya* one, or that which inhabits the country along the foot of the snows on this side of the great snowy mountains; ranking the musk of the former much higher than that of the latter variety. The specimen now sent is of the *Trans-Himálayan* animal. The notes appended are of the *Cis-Himálayan* one. Through the kindness of Mr. HODGSON, I have had opportunities of examining specimens of both animals, but without observing any important difference between them. The musk pod of the Thibetan animal is covered with short close hair, while that of the *Cachar* one is clothed with very long hair, and hangs more loosely from the belly. I believe the musk of both, when unadulterated, to be much alike, and that the superficial value attached to the Thibetan animals' produce, arises from the circumstance of its being less frequently impregnated with foreign substances, for the purpose of increasing its weight and bulk, than the *Cachar* article. The pods, as they are found in the market, whether *Thibetan* or *Cacharya*, vary a good deal in appearance, and hence the general division of them above noted is subdivided: the thinner skinned ones being called *Kághazí*, or papery, the thicker skinned ones *Ganauta*.

* Indian Vulture, *Vultur Indicus*.—Bengal Vulture, *Vultur Bengalensis*. Of the habits of the Pondicherry Vulture (*V. Ponticerianus*) I know little. They are generally seen singly or in pairs,—never I believe in flocks. (?) Do they in the East, hold the place and habits of the king of the Vultures of the West?

You will readily observe that the anatomical notes are very incomplete, and that they have been copied "in the rough" as made at the dissection; but their accuracy, and the interesting nature of the animal they appertain to, may nevertheless render them acceptable to the curious in such matters.

A musk deer (*Cacharya*) male, mature.—Length from vent to occiput 2 feet $2\frac{1}{2}$ inches: occiput to snout 7 inches: tail a mere rudiment, $1\frac{1}{2}$ inch long, terminating in a tuft of hair like a shaving brush. The anus surrounded by a ring of soft hairs, the skin under which is perforated by innumerable small pores secreting an abominably offensive stuff; pressure brings out the stuff liquid, like melted honey. Scrotum round, and naked; space between it and anus naked, also for a small space towards the groins. Penis $3\frac{1}{4}$ inches long, terminating in the musk bag, which is in this animal globular, a little flattened on the surface towards the ground— $1\frac{1}{2}$ inch in diameter either way, and thickly covered with long hairs; it is pendent from the belly, not like the *Bhotiah* musk deer examined last year, in which it was bound up to the abdominal parietes. At the centre of the musk bag is a circular hole, large enough to admit a lead pencil; its edges are naked and moist. At the posterior margin of this hole is the orifice of the penis. The penis is, in fact, terminated by the musk bag, which might be called correctly the preputial bag. The bag is composed of two distinct membranes, apparently unconnected with one another, except at the margin of the circular external hole. The external membrane is vascular and strong, the internal one is silvery, shining, and not vascular: it resembles the retina of the eye, as it is seen on dissecting the eye from without. The inner membrane which forms the cavity of the bag is lined internally with a few scattered hairs. The musk is soft, of a reddish brown color, and granular: its appearance and consistence is precisely that of moist ginger-bread. Around the margin of the hole of the bag is a circle of small glandular-looking bodies, more numerous towards the side of the penis, (the posterior margin.) The flesh of the animal is dark red, and *not of musky smell*. Bladder very large, 6 inches long, $2\frac{1}{2}$ broad. The liver flat, one lobe only, with a cleft in its margin at the attachment of the central ligament. Length of liver from left to right $6\frac{1}{2}$ inches, from anterior to inferior aspect $3\frac{1}{2}$ inches thick: at its extreme right one inch, at its extreme left half an inch. Gall-bladder oval-shaped, pendulous from right half of liver, three inches long, $2\frac{1}{2}$ in diameter. The gall duct penetrates the intestine $2\frac{1}{2}$ inches from the pylorus of last or fourth stomach. Spleen thin, four inches long, $2\frac{1}{2}$ broad. Kidneys unilobed, not sul-

cated on their surface, $1\frac{1}{2}$ inch long, one inch broad. Stomachs four, in all respects ruminant. The large bag, or first stomach, mean length 8 inches, breadth 6 inches. Entire length of intestines 40 feet. From the pylorus to cæcum 28 feet, from cæcum to vent 12 feet. One cæcum 13 inches long, and 2 inches in diameter. The small intestines, which are round and thread-like, as well as the larger ones, are very thin coated; average diameter of large ones near the rectum 2 inches. Right lung the larger, three-lobed; left lung three-lobed also, a small centre lobe of which lies below the apex of the heart. Heart 3 inches long, 2 in diameter.

Another Musk Deer, May 28, 1835.

No branches from the arch of the aorta. The ascending aorta one inch from the arch, gives off, *first*, a common trunk, immediately divided into the left subclavian and left vertebral—*second*, $2\frac{1}{2}$ inches higher: it (the aorta) divides into two branches; viz. the right cephalic, and the common trunk of the right subclavian and right vertebral.

The os hyoides is formed of a small centre body and two horns, each of the two pieces having a posteriorly directed process for insertion into the head of the thyroid cartilage. The cornua are articulated with a small process of the temporal bone below the meatus auditorius. The larynx one inch long. The trachea to the first branch given off, (which is on the right side) eight inches long: one inch further on it divides at once into four branches, the first branch goes to the highest of the four lobes of the right lung. The cartilaginous rings of the trachea incomplete behind.

Dimensions of the "Wak" of the Bhotiahs.

Ailurus Fulgens, or male, mature.

From snout to tip of tail, $37\frac{1}{4}$ inches.

From the sole of fore foot to superior crest of scapula, $9\frac{1}{2}$ ins.

From foramen magnum to snout, taken with callipers, $5\frac{1}{4}$ inches.

Length of tail 6 inches.

From first cervical vertebra, to first vertebra of the tail, $16\frac{3}{4}$ inches.

Greatest circumference of head round the angle of the jaw, 10 ins.

Length of humerus, 5 inches.

Length of fore-arm, $4\frac{1}{2}$ inches.

From wrist to tip of middle finger, $2\frac{3}{4}$ inches.

Length of femur, $4\frac{1}{2}$ inches.

Length of tibia, and fibula, $5\frac{1}{2}$ inches.

From heel to tip of middle toe, $4\frac{1}{2}$ inches.

Girth round lower part of thorax, 12 inches.

From anterior edge of the orbit to tip of snout, $1\frac{1}{2}$ inches.

From external opening of the ear to the tip of the nose, $3\frac{1}{4}$ ins.